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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|------------------|
| 10/728,787 | 12/08/2003 | Ho-Kyoon Chung | 61610108US | 2371 |
| 58027 | 7590 | 05/05/2006 | EXAMINER | |
| H.C. PARK & ASSOCIATES, PLC 8500 LEESBURG PIKE SUITE 7500 VIENNA, VA 22182 | | | ARANCIBIA, MAUREEN GRAMAGLIA | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 1763 | |

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/728,787

Applicant(s)

CHUNG ET AL.

Examiner

Maureen G. Arancibia

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-6,8,11 and 13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6,8,11 and 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 August 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. **Claim 1, 2, 4-6, 8, 11, and 13 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement.**

The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the amendment to independent claims 1 and 5 in the reply filed on 30 August 2005 to recite that the image display device is surrounded by an inner sealant having no plugged openings therein appears to introduce new matter.

In the reply filed on 10 February 2006, Applicant argues that support for this amendment is found in the Specification (Page 7, Lines 18-23) and in the Drawings (Figures 3A and 3B). This argument is not persuasive, since the referenced drawings only show a cross-sectional view of the inner sealant 32, and thus do not exclude the presence of a "plugged opening" elsewhere along the circumference of the inner sealant. Moreover, the statements in the Specification to which Applicant refers, that "a

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second sealing member 32 is formed such as to partition each of the image display means 20" and that "the image display means 20 are individually sealed up," likewise do not exclude the presence of a plugged opening in the sealing member. A sealing member with a plugged opening therein would also partition and individually seal up the image display means. The Examiner notes that it has been held that negative limitations recited to overcome prior art can be considered new matter, and that the mere absence of a positive recitation in the original specification is not basis for the exclusion of a feature. *Ex Parte Grasselli* 231 USPQ 393,394. (Bd. App. 1983). Therefore, Applicant is again requested to identify the support for this amendment in the original disclosure.

4. Claims 5, 6, 8, and 13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, the recitation on Lines 10-11 of Claim 5 of "attaching an unetchable protection film to all of each lateral side of the combined upper and lower substrates" is unclear. For the purposes of the following examination on the merits, this recitation has been given the broadest reasonable interpretation, that the unetchable protection film is applied to all of each lateral side in that it stretches along each lateral side from end to end in a continuous fashion (without gaps). If Applicant intends this recitation to be given the more narrow interpretation that the unetchable protection film is applied to the entirety of each face of each lateral side, it is suggested to make appropriate amendment to the claims in accordance with support in the original disclosure. Claims 6, 8, and 13 are rejected due to their dependence on Claim 5.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claims 1, 2, 4-6, 8, 11, and 13 rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,391,137 to Matsushima in view of U.S. Patent 5,766,493 to Shin, U.S. Patent 6,908,638 to Ueda et al., and U.S. Patent 6,470,594 to Boroson et al.**

Matsushima teaches a prior art method of manufacturing a thin flat panel display (Figure 12), comprising: preparing an etchable upper substrate 2 and an etchable lower substrate 1; forming image display devices (Column 1, Lines 45-49) on an inner surface of the lower substrate, and isolating them within device divisions 6; combining the upper and lower substrates, such that the image display devices are each completely surrounded by an inner sealant 3 (made continuous by filling injection hole 3a; Column 1, Lines 50-54 and 64-67; Figure 12); etching the outer surfaces of the upper and lower substrates (Column 2, Lines 15-20); and cutting the combined upper and lower substrates into individual image display units (Column 3, Lines 1-5). Each of the image display devices are completely surrounded by an inner sealant 3, and all of the image display devices and the inner sealants are surrounded by an outer sealant 4. (Figure 12; Column 1, Lines 54-56)

Matsushima does not expressly teach that the combining *further* comprises attaching an unetchable protection film to all of each lateral side of the combined upper and lower substrates.

Shin teaches a method of combining an upper and lower substrate 20, 20, wherein an image display device is surrounded by an inner sealant 14 and an outer sealant 19, and an unetchable protection film 15 is additionally attached to all of each lateral side of the upper and lower substrates 20, 20. (Figure 3D; Column 3, Line 53 - Column 4, Line 14)

It would have been obvious to one of ordinary skill in the art to modify the method taught by Matsushima to *additionally* attach an unetchable protection film to all of each lateral side (i.e. extending along each lateral side in a continuous fashion) of the combined upper and lower substrates, as broadly recited in the claims. The motivation for doing so, as taught by Shin (Column 4, Lines 10-14), would have been to prevent foreign materials or strong acid from entering between the first and second substrates during etching.

The combination of Matsushima and Shin does not expressly teach that each image display device is an organic EL display device.

Ueda et al. teaches that display devices can be organic EL display devices, formed by coating an organic luminescing layer 3. (Column 1, Lines 15-26; Column 2, Lines 10-15; Column 6, Lines 5-6)

It would have been obvious to one of ordinary skill in the art to modify the methods taught by Matsushima and Shin to have the individual display devices be

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organic EL display devices. The motivation for making such a modification, as taught by Ueda et al. (Column 18, Lines 27-37), would have been to employ display devices with a long service life. More broadly, it would have been obvious to substitute organic EL display devices for the LCD devices taught by Matsushima, since both are art-recognized equivalent means *of generating an electronic display*.

The combination of Matsushima, Shin, and Ueda et al. does not expressly teach that each of the inner sealants has no plugged openings therein.

Boroson et al. teaches that an inner sealant 20 surrounding a coated image display device 12 has no plugged openings therein. (Figures 5A and 5B; Column 8, Lines 58-60)

It would have been obvious to one of ordinary skill in the art to modify the combination of Matsushima, Shin, and Ueda et al. to form the inner sealants with no plugged openings therein. The motivation for making such a modification, as taught by Boroson et al. (Column 2, Lines 27-65; Column 8, Lines 58-60; Column 9, Lines 34-40), would have been to protect the organic EL display devices, which Boroson et al. teaches are highly moisture-sensitive (*highly moisture-sensitive electronic devices, for example, organic light-emitting devices*; Column 2, Lines 27-28), from moisture prior to cutting. (Note that Boroson et al. also teaches overcoming the problem of increased pressure between the substrates by providing vent holes 100 in the substrates themselves; ex. Column 4, Lines 31-58; Column 9, Lines 19-21)

In regards to Claims 2 and 6, Matsushima teaches that the upper and lower substrates 1, 2, are formed of glass. (Column 1, Line 45)

In regards to Claims 4 and 8, Matsushima does not expressly disclose that the prior art method can be used to etch the substrates to each have a thickness of at most 0.5 mm.

However, Matsushima teaches another method in which each of the upper and lower substrates 100, 101, is etched to each have a thickness of about 0.3 to 0.7 mm. (Column 9, Lines 1-3)

It would have been obvious to one of ordinary skill in the art to modify the prior art method disclosed by Matsushima to etch the substrates 1, 2, to each have a thickness of at most 0.5 mm. The motivation for doing so, as taught by Matsushima (Column 1, Lines 23), would have been to make a lightweight display device.

Response to Arguments

7. Applicant's arguments filed 10 February 2006 have been fully considered but, to the extent to which they still apply, they are not persuasive.

In response to applicant's argument that there is no suggestion to combine the teachings of Matsushima and Shin, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation to modify the teachings Matsushima to *additionally* attach an unetchable protection film to all of each lateral side of the combined upper and lower substrates, as

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taught by Shin (Column 4, Lines 10-14), would have been to prevent foreign materials or strong acid from entering between the first and second substrates during etching. Shin teaches that this unetchable protection film confers this benefit in the case where an image display device is already surrounded by an inner sealant 14 and an outer sealant 19, and the unetchable protection film 15 is additionally attached to all of each lateral side of the upper and lower substrates 20, 20. (Figure 3D; Column 3, Line 53 - Column 4, Line 14) Shin's teaching of an inner sealant and an outer sealant is analogous to the inner sealant 3 and the outer sealant 4 taught by Matsushima. Accordingly, one of ordinary skill in the art would expect some further benefit (i.e. better protection against the incursion of acid) to be obtained by applying the unetchable protection film to all of each lateral sides of the substrates in the method taught by Matsushima.

The Examiner also notes that Applicant's argument that the additional expense of employing such a protection film would discourage one of ordinary skill in the art from using it is not persuasive. It has been held that the fact that a combination would not be made by businessmen for economic reasons does not mean that a person of ordinary skill in the art would not make the combination because of some technological incompatibility. *In re Farrenkopf*, 713 F.2d 714, 219 USPQ 1 (Fed. Cir. 1983) The same reasoning applies to Applicant's argument that one of ordinary skill in the art would be discouraged by additional costs in time and money from combining the teachings of Ueda with those of Matsushima and Shin.

In response to Applicant's arguments against Ueda individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

In response to Applicant's argument that the Examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

In response to Applicant's argument that Matsushima and Ueda are nonanalogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, Matsushima and Ueda are in the field of Applicant's endeavor (and therefore in the same field as each other), that of manufacturing of electronic display devices.

In regards to Applicant's argument that Shin does not teach that the unetchable protection film is attached to "all of each lateral side of the combined upper and lower

substrates," the Examiner's position has been set forth above in the rejections under 35 U.S.C. 112, second paragraph, and 35 U.S.C. 103(a).

8. Applicant's remaining arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent 3,769,113 to Gruenke Jr. teaches attaching an unetchable protection film 7 to the entirety of the face of each lateral side of a glass panel 1 to be etched. (Figure 1)

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Maureen G. Arancibia whose telephone number is (571) 272-1219. The examiner can normally be reached on core hours of 10-5, Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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